

In the Claims:

Please cancel claims 1-16 without prejudice, and add new claims 17-31 as set forth below. All the pending claims are reproduced below.

Claims 1-16 (canceled)

17. (new) A valve adopted to control a flow of abrasive particles suspended in a pressurized carrier fluid, the valve comprising:
at least two apertured valve seat means;
each said seat means having a contact face in contact with a corresponding opposing contact face of another said apertured valve seat means and being translationally slideable in contact therewith and with respect thereto between a first position in which the apertures of each valve seat means are aligned so that said pressurized carrier fluid is passable through said apertures, and a second position wherein the aperture in one valve seat means is blocked by the contact face on another to stop flow through the valve;
said valve seat means being urged sealingly together by the pressure of the carrier fluid exerted on one valve seat means; and
each said valve seat means comprising a material with a hardness, as measured on the Mohs scale, of at least 9.

18. (new) A valve of claim 17 wherein the flow of abrasive particles and carrier fluid passes to a valve seat means through a tube adapted to allow sliding movement of the valve seat means and to transmit thereto a force urging the valve seat means together.

19. (new) A valve of claim 17 wherein the at least two apertured valve seat means comprise two valve seat means, one being translationally slideable in contact with the other and with respect thereto.

20. (new) A valve of claim 17 wherein the at least two apertured valve seat means comprise three valve seat means, a median one of which is translationally slideable in contact with the outer ones and with respect thereto.
21. (new) A valve of claim 17 wherein each of the valve seat means comprises diamonds.
22. (new) A valve of claim 17 wherein at least one of the valve seat means comprises a composite diamond/ceramic material.
23. (new) A valve of claim 22 wherein a median one of said valve seat means comprises two layers of such composite material, with their ceramic faces joined together.
24. (new) A valve of claim 17 further comprising slide means to which one of the valve seat means is mounted, said slide means being adapted to be moveable translationally by external actuating means, thereby causing said one valve seat means to move between said first and said second positions.
25. (new) A valve of claim 17 further comprising turning means to rotate at least one of said valve seat means and/or its slide means in relation to another.
26. (new) A valve of claim 17 further comprising a container assembly adapted to contact a supply of abrasive particles for use in an abrasive fluid jet machining apparatus, said assembly comprising a container for said abrasive particles closeable sealably by means of a cap, said cap comprising an inlet means connected to a riser tube within said body, each of such restricted bore as substantially to prevent liquid flow therethrough, except under an imposed pressure differential, and an outlet means, the bore of which comprises such a restriction as substantially to prevent flow therethrough, except under an imposed pressure differential.

27. (new) A valve of claim 26 wherein the container contains a supply of abrasive particles suspended in a carrier fluid.

28. (new) A valve of claim 27 wherein the carrier fluid is water, and said abrasive particles comprise particles selected from the group including garnet, olivine and aluminum oxide.

29. (new) An apparatus for machining a workpiece, comprising pressurizing means, a storage vessel for a supply of abrasive particles, a nozzle, and a valve of claim 1 adjacently upstream of the nozzle, adapted to interrupt flow through the nozzle.

30. (new) An apparatus of claim 29 wherein the pressurizing means further comprises means momentarily to increase the pressure at a point between the nozzle and the storage vessel to a level exceeding that present in the storage vessel prior to actuation of the valve to interrupt flow through the nozzle.

31. (new) An apparatus of claim 30 comprising valve means openable to cause an increased proportion of the fluid to flow from the pressurizing means directly to the point.